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MYERS BIGEL SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627			VERBITSKY, GAIL KAPLAN	
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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/936,387

Filing Date: December 18, 2001

Appellant(s): HAMILTON ET AL.

F. Michael Sajovec
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed on March 03, 2005 appealing from the Office action mailed October 02, 2004.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) Status of Claims

The statement of the status of the claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

This appeal involves claims 1-8, 10-21.

Claim 1 has been amended subsequent to the final rejection.

Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

(4) Status of Amendments After Final

The amendment after final rejection filed on March 03, 2005 has been entered.

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner: the rejection of claim 21 under 35 U.S.C. 103 (a) as being obvious over Campbell and Manske in further view of Bernard (U.S. 4908503).

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

Campbell (U.S. 2102678)

Manske (U.S. 5213378)

Bealing et al. (U.S. 5990199)

GB0001967/ GB041882

Hickman (U.S. 1942857)

Bernard (U.S. 4908503).

In re Boesch, 205 USPQ 215 (CCPA 1980).

In re Leshin, 125 USPQ 416.

Kropa v. Robie, 88 USPQ 478 (CCPA 1951).

(9) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1-7, 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell (U.S. 2102678) and Manske (U.S.5213378).

Campbell discloses in Figs. 1, 3-4 a max/ min thermometer comprising an expansion liquid 22 which expands/ contracts in response to a temperature change and moves a transfer/ thermometric liquid 24 and two indicating means/ indexes/ pins 26, 28 made of a magnetizable material/ ferrous piece of metal/ ferrous wire (steel or iron).

Campbell does not teach that the transfer liquid 24 is mercury free, as stated in claim 1. Campbell does not teach the particular aqueous solution/ material for the transfer liquid 24 and the particular liquid/ material for the expansion liquid, as stated in claim 1, with the remaining limitations of claims 1-7, 12-19.

Manske discloses in Fig. 1 a thermometer-like indicator (col. 3, line 23) comprising a hollow tube 6, a colorless (organic compound/ liquid) expansion liquid 10 which undergoes volume change as the result of temperature change. When it constricts, it draws a transfer liquid (separating liquid/ substance/ not mercury) 14 that is immiscible with the expansion liquid 10 (col. 4, line 29). The transfer liquid 14 is an aqueous salt solution (inorganic, nickel-nitride, col. 6, lines 1-2) and is capable of being dyed (by a suitable dye). The working temperature is from below water freezing point to 127.4 degrees F (53 degrees C).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the transfer liquid in the thermometer, disclosed by Campbell, with the transfer liquid, as taught by Manske, because both of them are alternate types of transfer liquids which will perform the same function, of moving in response to volume change of the expansion liquid and indicating temperature, if one is replaced with the other.

With respect to the particular temperature range, i.e., -30 degrees C and +50 degrees C, when the transfer liquid remains liquid (working range), as stated in claim 5: the particular temperature range, absent any criticality, is only considered to be the "optimum" temperature range, that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine experimentation based, among other things, on the temperature to be measured and the environment the device is to be used. In re Boesch, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the thermometer, disclosed by Campbell, to operate in the temperature range of -30 degrees C and +50 degrees C, so as to allow the operator to monitor the temperature, for example, of a food product kept in a refrigerator, in order to maintain its safety.

With respect to the particular density of the transfer liquid relative to the expansion liquid, and the indexes relative to the transfer liquid, as stated in claims 2-4, 19 respectively: the particular liquids/ materials, with particular densities, absent any criticality, is only considered to be the "optimum" liquids/ materials/ densities, that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine experimentation based, among other things, on

the particular temperature range to be measured and the environment the device is to be used. In re Boesch, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the transfer liquid with a lower density than the expansion liquid and the indexes of a material with a density lower than the density of the transfer liquid, for the device disclosed by Campbell, so as not to allow them to unexpectedly mix, in order to provide a desired accuracy of the device within a desired temperature range.

With respect to the particular liquid/ material used for the expansion liquid, as stated in claim 18: the particular material, i.e., hydrocarbon, used for the expansion liquid, absent any criticality, is only considered to be the "optimum" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the expansion liquid, disclosed by Campbell, since it has been held to be a matter of obvious design choice and within the general skill of worker in the art to select a known material on the basis of its suitability for the intended use of the invention. In re Leshin, 125 USPQ 416.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the expansion liquid in the thermometer disclosed by Campbell made of hydrocarbon because hydrocarbon is known to expand/ constrict within a selected temperature range.

With respect to the particular liquid/ material used for the transfer liquid, as stated in claims 12-17: the particular material, i.e., ionic compound, alkali metal salt, and its particular weight, etc., used for the transfer liquid, absent any criticality, is only considered to be the "optimum" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the transfer liquid, disclosed by Campbell, since it has been held to be a matter of obvious design choice and within the general skill of worker in the art

to select a known material on the basis of its suitability for the intended use of the invention. In re Leshin, 125 USPQ 416 (CCPA 1960.

2. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell and Manske as applied to claims 1-7, 12-19 above, and further in view of Bealing et al. (U.S. 5990199) [hereinafter Bealing].

Campbell and Manske disclose the device as stated above.

They do not teach the particular dye, i.e., Aniline Blue, for the transfer liquid, as stated in claim 8.

With respect to the particular dye, i.e., Aniline Blue, as stated in claim 8: it is very well known in the art to use Aniline Blue dye to achieve a stable coloring of liquids. See, for example, Bealing, who teaches a device wherein aniline Blue is being used as a dye to achieve a stable color.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to dye the transfer liquid, disclosed by Campbell and Manske, with Aniline Blue, as taught by Bealing, so as to allow the operator to obtain a clear visible indication of the temperature when the indexes are not visible enough for an operator with a low vision.

3. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell and Manske as applied to claims 1-7, 12-19 above, and further in view of GB0001967/ GB041882 [hereinafter GB].

Campbell and Manske disclose the device as stated above.

They do not teach the limitations of claim 20.

GB discloses indexes *c*, *d* enclosed in a glass tube.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enclose the indexes, disclosed by Campbell and Manske, in a glass tube, as taught by GB, so as to protect them from possible corrosion when in a direct contact with the transfer/ expansion liquid, and thus, to achieve a desired accuracy and an aesthetic design of the device.

4. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell and Manske as applied to claims 1-7, 12-19 above, and further in view of Hickman (U.S. 1942857).

Campbell and Manske disclose the device as stated above.

They do not teach the particular liquid for the transfer liquid, as stated in claims 10-11.

Hickman discloses in Figs. 1-3 and entire text a device wherein a transfer liquid comprises a halogenated hydrocarbon, diethylene glycol. Hickman states that these materials are good lubricants and hardly soluble in an expansion liquid.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the transfer liquid, disclosed by Campbell and Manske, comprises a halogenated hydrocarbon, diethylene glycol, as taught by Hickman, because these particular material are good lubricants which would allow the expansion and transfer liquid to frictionless move along the tube, and not soluble in the expansion liquid, thus, providing a clear indication along the tube.

(10) Response to Argument

Applicant's arguments filed on March 03, 2005 have been fully considered but they are not persuasive.

Campbell: Applicant states that Campbell does not teach a mercury free transfer liquid. This argument is not persuasive. Campbell is silent about the particular material for the transfer liquid 24 at all, and thus, does not teach away or rule out a possibility of having mercury free transfer liquid.

Applicant states that Campbell teaches a mercury transfer liquid. The Examiner respectfully disagrees. Nowhere in the disclosure, Campbell states that the transfer liquid 24 is a mercury liquid. The fact that Campbell does not require that the transfer liquid 24 should be expandable would imply, that any mercury free liquid capable of being moved by an expansion liquid 22 could act as a transfer liquid.

Manske: Applicant states that Manske's device is not a thermometer but a temperature indicator. This argument is not persuasive because, A) Manske discloses a thermometer-like indicator, B) Both of them, Campbell and Manske, teach temperature indicative devices visually indicating max/ min temperature.

Applicant states that Manske is not concerned with a density difference between materials/ liquids. This argument is not persuasive because, A) In the rejection on the merits, the Examiner uses Manske as a secondary reference only for its teaching of non-expandable mercury free transfer liquid movable when pushed by the expansion liquid, B) Campbell teaches different immiscible the expansion liquid and transfer liquid.. This would imply that these liquids, at least at some temperature, would have different

Art Unit: 2859

densities, since density of the expansion liquid would, inherently, would change during heating / expansion.

Applicant states that Manske does not teach indices. This argument is not persuasive because, in the rejection on the merits, the Examiner uses Manske as a secondary reference only for its teaching of a non-expandable mercury free transfer liquid. Campbell teaches indices. Therefore, the combination of Campbell and Manske teaches indices, as claimed by Applicant.

Applicant states that the separating substance of Manske is not mercury, and thus it cannot be called a transfer liquid because the most common (commonly known in the art) transfer liquids are identified as mercury liquids. This argument is not persuasive and is irrelevant. The fact that some common (commonly known in the art) transfer liquids are mercury liquids does not necessarily mean that all transfer liquids ought to be mercury liquids. Manske teaches the separating substance (transfer liquid) which can, among other materials, be a nickel-nitride (inorganic salt), as claimed by Applicant, and thus, inherently, it is a mercury free substance/ liquid, as claimed by Applicant.

Applicant states that rejection of claims 2-7 and 12-19 is unfounded since the Examiner qualifies the density, the temperature range and the particular material, as "optimum" parameters. This argument is not persuasive because, A) The combination of Campbell and Manske discloses the same invention, as claimed by Applicant, including the same material for the transfer liquid, which means that the density of the transfer

liquid of the combination of Campbell and Manske is the same, as claimed by applicant in claims 1 and 10-11.

B) The particular temperature range, is absent any criticality, because, the combination of Campbell and Manske discloses at least the same material for the transfer liquid, as claimed by applicant. This would imply that the transfer liquid of the combination of Campbell and Manske would be capable to operate within substantially the same temperature range, as claimed by Applicant, C) the use by the Applicant of different materials, as stated in claims 12-18, absent any criticality, it is only considered to be the "optimum material" that showing the same properties, as shown by the materials of the combination of Campbell and Manske.

Campbell, Manske and Bealing: Applicant states the transfer liquid of claim 1 is capable of being colored by a suitable dye. Applicant states that the Aniline Blue, disclosed by Bealing, undergoes certain conditions and not related to the purpose of the colorant of claim 8. This argument is not persuasive because, A) The limitation stating that the Aniline Blue of Bealing serves the purposes different from the purposes of the instant invention is not persuasive because this limitation (particular purposes/functions) is not stated in claim 8. It is the claims that define the claimed invention, and it is claims, not specification that are anticipated or unpatentable. Constant v. Advanced Micro-Devices, Inc., 7 USPQ2d 1064.

B) It has been held that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute limitations in any patentable sense. In re Hutchinson, 69 USPQ 138.

Campbell, Manske and Hickman: Applicant states that Hickman does not disclose a transfer liquid. This argument is not persuasive because Hickman discloses a lubricant transfer liquid upon which the mercury liquid is moving. This would imply, that the transfer liquid is moving upon the mercury liquid.

The expansion liquid is not miscible with the transfer/ lubricant liquid, and the transfer liquid allows the expansion liquid to expand. The transfer liquid of Hickman superimposes the mercury and adapted to travel through the tube simultaneously with the mercury (page 3, right column, lines 95-98). Therefore, the transfer liquid of Hickman performs the same function as the transfer liquid of claims 10-11. Also, the particular liquid/ material used for the transfer liquid, as stated in claims 10-11, i.e., solution comprising inorganic or organometallic compound of elements found in Groups III, IV, V, VI and VII, or halogen containing compound, used for the transfer liquid, absent any criticality, is only considered to be the "optimum" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the transfer liquid, disclosed by Campbell, since it has been held to be a matter of obvious design choice and within the general skill of worker in the art to select a known material on the basis of its suitability for the intended use of the invention. In re Leshin, 125 USPQ 416 (CCPA 1960).

Campbell, Manske and GB: Applicant states that GB does not use a ferrous wire, that the GB wire is a steel wire/ index. This argument is not persuasive, because Campbell teaches indices made of steel or iron (ferrous index/ wire, page 1, right

column, line 44). Also, the Examiner, in the rejection on the merits, uses GB as a secondary reference, only for it's teaching to enclose the ferrous/ steel wire of Campbell in a glass, so as to protect it. Therefore, the combination of Campbell, Manske and GB teaches all the limitations of claim 20.

Campbell, Manske and Bernard: The Examiner found the arguments fully persuasive, the rejection of claim 21 is now withdrawn. Claim 21 is objected as depended on the rejected claim 19.

With respect to the preamble of claim 1: the preamble of the claims does not provide enough patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and a portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. Kropa v. Robie, 88 USPQ 478 (CCPA 1951).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

GKV

July 18, 2005

Application/Control Number: 09/936,387
Art Unit: 2859

Page 15

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